This circular will be sent regularly to all who apply for it.

United States Department of Agriculture.

WASHINGTON, D. C., *October 31, 1917.*

MONTHLY LIST OF PUBLICATIONS.

[OCTOBER, 1917.]

READ CAREFULLY BEFORE ORDERING.

☞ Send No Remittances to the U. S. Department of Agriculture.

A copy of any of the publications listed herein, except those otherwise noted, may be obtained free upon application to the Chief of the Division of Publications, United States Department of Agriculture, Washington, D. C., as long as the department's supply lasts.

After this department's supply is exhausted, publications can still be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., but by purchase only, and at the prices noted herein.

☞ Send all remittances to the Superintendent of Documents direct. His office is not a part of the Department of Agriculture.

SPECIAL NOTICE.

Before mailing your request be sure and see that your name and complete post-office address (street number or rural route number as the case may be) is attached.

FARMERS' BULLETINS—FOR FREE DISTRIBUTION.

☞ NOTE.—The department's supply of the current numbers of Farmers' Bulletin is ordinarily sufficient to make it possible to send them free to all applicants. They are also for sale at 5 cents per copy.

Winter Oats for the South. By C. W. Warburton, Agronomist in Charge of Oat Investigations. Pp. 16, figs. 2. Contribution from the Bureau of Plant Industry. Revised October, 1917. **(Farmers' Bulletin 436.)**

For general distribution in the Southern States.

Construction and Use of Farm Weirs. By Victor M. Cone, Irrigation Engineer, Irrigation Investigations. Pp. 19, figs. 5. Contribution from the Office of Public Roads and Rural Engineering. **(Farmers' Bulletin 813.)**

Gives practical directions for the construction and use of the smaller sizes of weirs, such as are suited to the measurement of water on irrigated farms.

Farm Reservoirs. By Samuel Fortier, Chief of Irrigation Investigations. Pp. 36, figs. 31. Contribution from the Office of Public Roads and Rural Engineering. **(Farmers' Bulletin 828.)**

Gives practical information to those who intend to build, or are operating farm reservoirs.

Asparagus. By H. C. Thompson, Horticulturist, Office of Horticultural and Pomological Investigations. Pp. 20, figs. 10. Contribution from the Bureau of Plant Industry. **(Farmers' Bulletin 829.)**

For general distribution.

Marketing Eggs by Parcel Post. By Lewis B. Flohr, Investigator in Marketing by Parcel Post. Pp. 23, figs. 6. Contribution from the Bureau of Markets. **(Farmers' Bulletin 830.)**

A revision of Farmers' Bulletin 594, Shipping Eggs by Parcel Post, and is suitable for general distribution.

The Asparagus Beetles and Their Control. By F. H. Chittenden, Entomologist in Charge of Truck Crop Insect Investigations. Pp. 15, figs. 8. Contribution from the Bureau of Entomology. **(Farmers' Bulletin 837.)**

For general distribution.

Important Pecan Insects and Their Control. By John B. Gill, Entomological Assistant, Deciduous Fruit Insect Investigations. Pp. 48, figs. 58. Contribution from the Bureau of Entomology. **(Farmers' Bulletin 843.)**

Of interest to all pecan growers.

The Gipsy Moth and the Brown-Tail Moth and their Control. By A. F. Burgess, in Charge of Gipsy Moth and Brown-tail Moth Investigations. Pp. 28, figs. 13. Contribution from the Bureau of Entomology. **(Farmers' Bulletin 845.)**

For distribution especially in the New England States.

The Tobacco Beetle and How to Prevent Damage by It. By G. A. Runner, Entomological Assistant, Southern Field Crop Insect Investigations. Pp. 22, figs. 6. Contribution from the Bureau of Entomology. **(Farmers' Bulletin 846.)**

Of interest to tobacco growers, dealers, and manufacturers.

Strawberry Culture in Tennessee, Kentucky, and West Virginia. By George M. Darrow, Scientific Assistant, Office of Horticultural and Pomological Investigations. Pp. 24, figs. 11. **(Farmers' Bulletin 854.)**

Discusses the different cultural methods used in different sections and is of interest to strawberry growers in the South and Middle West.

Irrigation of Grain. By Walter W. McLaughlin, Irrigation Engineer. Pp. 22, figs. 7. Contribution from the Office of Public Roads and Rural Engineering. **(Farmers' Bulletin 863.)**

A revision of Farmers' Bulletin 399, and of interest to irrigation farmers.

Practical Information for Beginners in Irrigation. By Samuel Fortier, Chief, Irrigation Investigations. Pp. 38, figs. 23. Contribution from the Office of Public Roads and Rural Engineering. **(Farmers' Bulletin 864.)**

Is a revision of Farmers' Bulletin 263. Of interest to all irrigation farmers.

Swine Management. By George M. Rommel and F. G. Ashbrook, Animal Husbandry Division. Pp. 38, figs. 15. Contribution from the Bureau of Animal Industry. **(Farmers' Bulletin 874.)**

A revision of Farmers' Bulletin 205, and suitable for general distribution.

The Rough-Headed Corn Stalk-Beetle in the Southern States and Its Control. By W. J. Phillips and Henry Fox, Entomological Assistants, Cereal and Forage Insect Investigations. Pp. 12, figs. 8. Contribution from the Bureau of Entomology. **(Farmers' Bulletin 875.)**

For distribution among, and of especial interest to farmers in the Southern States.

Human Food from an Acre of Staple Farm Products. By Morton O. Cooper and W. J. Spillman. Pp. 11. Contribution from the Office of Farm Management. **(Farmers' Bulletin 877.)**

Gives an acre for acre comparison of the food value of different crops and animal products.

Fumigation of Ornamental Greenhouse Plants with Hydrocyanic-Acid Gas. By E. R. Sasscer, Collaborator, and A. D. Borden, Scientific Assistant. Pp. 20, figs. 4. Contribution from the Bureau of Entomology. **(Farmers' Bulletin 880.)**

Of interest to florists and owners of greenhouses.

Rye Growing in the Southeastern States. By Clyde E. Leighty, Agronomist in Charge of Eastern Wheat and Rye Investigations. Pp. 16. Contribution from the Bureau of Plant Industry. **(Farmers' Bulletin 894.)**

Suggests the advisability of raising rye in said States and describes the various uses of this crop.

House Rats and Mice. By David E. Lantz, Assistant Biologist. Pp. 23, figs. 10. Contribution from the Bureau of Biological Survey. **(Farmers' Bulletin 896.)**

For general distribution.

The Silverfish, or "Slicker": An Injurious Household Insect. By E. A. Back, Entomologist in Charge of Stored Product Insect Investigations. Pp. 4, fig. 1. Contribution from the Bureau of Entomolgy. **(Farmers' Bulletin 902.)**

Suitable for general distribution.

Commercial Evaporation and Drying of Fruits. By James H. Beattie and H. P. Gould, Office of Horticultural and Pomological Investigations. Pp. 61, figs. 22. Contribution from the Bureau of Plant Industry. **(Farmers' Bulletin 903.)**

Of interest generally to all who have surplus in considerable quantity for which there is not ready sale in the fresh state. Though intended primarily to aid in developing commercial activities, the information should be of value to all who wish to dry fruit for home use.

Game Laws for 1917. A summary of the Provisions of Federal, State, and Provincial Statutes. By George A. Lawyer, W. F. Bancroft, and Frank L. Earnshaw, Assistants, Bureau of Biological Survey. Pp. 70. Contribution from the Bureau of Biological Survey. **(Farmers' Bulletin 910.)**

For general distribution.

DEPARTMENTAL BULLETINS—TECHNICAL.

☞The publications listed below are technical or scientific treatises or bulletins applying to a special industry or locality. The edition is limited, but they will be furnished free to persons who can use such specialized information as long as the supply lasts. However, to insure prompt receipt, remit price to the Superintendent of Documents.

The Expansion and Contraction of Concrete and Concrete Roads. By A. T. Goldbeck, Engineer of Tests, and F. H. Jackson, jr., Assistant Testing Engineer. Pp. 31, figs. 19. Contribution from the Office of Public Roads and Rural Engineering. (Professional Paper.) Oct. 13, 1917. **(Department Bulletin 532.)** Price, 10 cents.

A technical study of the subject, and of interest to road engineers and contractors.

The Red Spruce: Its Growth and Management. By Louis S. Murphy, Forest Examiner. Pp. 100, pls. 7, fig. 1. Contribution from the Forest Service. (Professional Paper.) Oct. 31, 1917. **(Department Bulletin 544.)** Price, 20 cents.

The purpose of this bulletin is to formulate definite systems of forest management for various conditions.

Important Range Plants, Their Life History and Forage Value. By Arthur W. Sampson, Plant Ecologist, Forest Service. Pp. 63, pls. 56. Contribution from the Forest Service and the Bureau of Plant Industry. (Professional Paper.) Oct. 8, 1917. **(Department Bulletin 545.)** Price, 40 cents.

For use of forest officers and stock owners using the natioinal forests for grazing purposes.

Collection of Weevils and Infested Squares as a Means of Control of the Cotton Boll Weevil in the Mississippi Delta. By B. R. Coad and T. F. McGehee, Entomological Assistants, Southern Field Crop Insect Investigations. Pp. 51, pl. 2, fig. 1. Contribution from the Bureau of Entomology. Oct. 4, 1917. **(Department Bulletin 564.)** Price, 10 cents.

Of interest to entomologists and to cotton growers in the Delta region of Louisiana.

Increased Yield of Turpentine and Rosin from Double Chipping. By A. W. Schorger, Chemist in Forest Products, and R. L. Pettigrew, Assistant Engineer in Forest Products. Pp. 9, pls. 2. Contribution from the Forest Service. (Professional Paper.) Oct. 2, 1917. **(Department Bulletin 567.)** Price, 5 cents.

Describes a method of securing more naval stores from the same tree, and is of interest to all naval-stores operators.

The Recovery of Potash as a By-Product in the Cement Industry. By William H. Ross, Albert R. Merz, and C. R. Wagner. Pp. 23. Contribution from the Bureau of Soils. (Professional Paper.) Oct. 5, 1917. **(Department Bulletin 572.)** Price, 5 cents.

A discussion of the possibility of recovering potash from waste in cement producing plants, and a description of the various processes used.

Microscopical Studies on Tomato Products. By Burton J. Howard, Microscopist in Charge, in collaboration with Charles H. Stephenson, Scientific Assistant, Microchemical Laboratory. Pp. 24, figs. 5. Contribution from the Bureau of Chemistry. Oct. 6, 1917. **(Department Bulletin 581.)** Price, 5 cents.

Of interest to canners and manufacturers of tomato products.

The Control of Hog Cholera, With a Discussion of the Results of Field Experiments. By A. D. Melvin, Chief of the Bureau of Animal Industry, and M. Dorset, Chief of the Biochemic Division. Pp. 18, figs. 2. Contribution from the Bureau of Animal Industry. Oct. 13, 1917. **(Department Bulletin 584.)** Price, 5 cents.

Of interest to officials engaged in combating hog cholera.

A Guide for Formulating a Milk Ordinance. Prepared in the Dairy Division of the Bureau of Animal Industry and the Bureau of Chemistry. Pp. 4. Contribution from the Bureau of Animal Industry and the Bureau of Chemistry. Oct. 18, 1917. **(Department Bulletin 585.)** Price, 5 cents.

Of interest to town, city, and other officials interested in the improvement of the milk supply.

Winter Wheat in the Great Plains Area, Relation of Cultural Methods to Production. By E. C. Chilcott, Agriculturist in charge, John S. Cole, Agriculturist, and J. B. Kuska, Assistant, Office of Dry-Land Agriculture. Pp. 36. Contribution from the Bureau of Plant Industry. Oct. 11, 1917. **(Department Bulletin 595.)** Price, 5 cents.

Intended for all who are interested in the agricultural possibilities of the Great Plains area.

MISCELLANEOUS.

Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction During the Period from July 1 to September 30, 1914. [Nos. 38666 to 39308.] Oct. 30, 1917. **(Inventory No. 40, Bureau of Plant Industry.)** Price, 20 cents.

Life Zone Investigations in Wyoming. By Merritt Cary, Assistant Biologist, Biological Survey. Pp. 95, pls. 15, figs. 17, map. Oct. 3, 1917. **(North American Fauna, No. 42.)** Price, 40 cents.

Experimental Roads in the Vicinity of Washington, D. C. By B. A. Anderton, Assistant Chemist, and J. T. Pauls, Junior Highway Engineer, Office of Public Roads and Rural Engineering. Pp. 8. Oct. 15, 1917. **(Circular 77, Office of Secretary.)** Price, 5 cents.

Emergency Fuel from the Farm Woodland. By A. F. Hawes, Extension Specialist. Pp. 8. Contribution from the Forest Service and the States Relations Service. Oct., 1917. **(Circular 79, Office of the Secretary.)** Price, 5 cents.

Harvesting, Picking, Thrashing, and Storing Peanuts. By H. C. Thompson, Horticulturist, Office of Horticultural and Pomological Investigations, Bureau of Plant Industry. Pp. 6, figs. 4. Oct. 13, 1917. **(Circular 81, Office of the Secretary.)** Price, 5 cents.

Rules and Regulations of the Secretary of Agriculture Under the Food Products Inspection Law of August 10, 1917. Pp. 8. Oct. 31, 1917. **(Circular 82, Office of the Secretary.)** Price, 5 cents.

SERIALS.

Journal of Agricultural Research. (For sale only.) Vol. 11, No. 1. Oct. 1, 1917. Contents: Natural Reproduction from Seed Stored in the Forest Floor. (jx F–4.) By J. V. Hoffmann.—A New Parasitic Nema, Tylenchus penetrans, Found Infesting Cotton and Potatoes. (jy G–121.) By N. A. Cobb. Pp. 1–33, pls. 7, figs. 9. Price, 20 cents.

Same, Vol. 11, No. 2, Oct. 8, 1917. Contents: Endrot of Cranberries. (ka G–122.) By C. L. Shear.—Some Factors Affecting Nitrate-Nitrogen Accumulation in Soil. (kb Kans–10.) By P. L. Gainey and L. F. Metzler. Pp. 35–64, pl. 1, figs. 3. Price, 10 cents.

Same, Vol. 11, No. 3, Oct. 15, 1917. Contents: Conglutination Test for the Diagnosis of Glanders. (kc A–31.) By H. W. Schoening.—Occurrence of Manganese in Insect Flowers and Insect Flower Stems. (kg E–7.) By C. C. McDonnell and R. C. Roark.—Life History of Macrosiphum illinoisensis, the Grapevine Aphis. (jz K–57.) By A. C. Baker. Pp. 65–89, pls. 2. Price, 10 cents.

Same, Vol. 11, No. 4, Oct. 22, 1917. Contents: Effect of Sulphur on Different Crops and Soils. (kh Ky.–5.) By O. M. Shedd.—A Statistical Study of Some Indirect Effects of Certain Selections in Breeding Indian Corn. (ke Ill.–6.) By H. L. Rietz and L. H. Smith.—Some Notes on the Direct Determination of the Hygroscopic Coefficient. (ki Minn.–20.) By Frederick J. Alway, Millard A. Kline, and Guy R. McDole.—Inheritance Studies in Pisum: IV. Interrelation of the Genetic Factors of Pisum. (kd G–123.) By Orland E. White. Pp. 91–190, figs. 24. Price, 20 cents.

Same, Vol. 11, No. 5. Oct. 29, 1917. Contents: Fungus Fairy Rings in Eastern Colorado and Their Effect on Vegetation. (kf G–124.) By H. L. Shantz and R. L. Piemeisel. Pp. 191–245, pls. 21, figs. 13. Price, 20 cents.

Same, Vol. 8, No. 13. Mar. 26, 1917. Contents and Index of Volume 8. Pp. i–xv, 477–482. Price, 10 cents.

Same, Vol. 9, No. 13. June 25, 1917. Contents and Index of Volume 9. Pp. i–x, 427–431. Price, 5 cents.

☞NOTE.—Beginning with volume 5 the Journal of Agricultural Research has been issued weekly and is distributed free *only* to the libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. *It will not be sent free to individuals.* The Superintendent of Documents will receive subscriptions for this publication, the price being $3 per year, 52 numbers.

Experiment Station Record. Vol. 37, No. 4, September, 1917. E. W. Allen, Ph. D., Editor. Pp. 301–400. Price, 15 cents.

☞NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture. It is not intended for general distribution, and its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. It can not be sent free to individuals having no official connection with public institutions. The Superintendent of Documents will receive subscriptions for this publication, which is issued in two volumes a year, 10 numbers each, at $1 a volume.

The Monthly Crop Report. Vol. 3, No. 10, October, 1917. Pp. 93–104. (Bureau of Crop Estimates.)

Contains data relating to agriculture, including estimates of acreage, conditions, yield, prices, and value of crops and live stock. For free distribution.

SERVICE AND REGULATORY ANNOUNCEMENTS—FOR SALE ONLY.

☞These contain *only* information, instructions, and notices governing the enforcement of food and drugs act, meat inspection, 28-hour and quarantine laws, and the various regulations of the department. Issued monthly by certain bureaus. *Free distribution* is limited to persons in the employ of the department, to public officials whose duties render it necessary for them to have such information, to journals especially concerned, and to manufacturers and firms whose business is affected by same. Others desiring copies are respectfully referred to the Superintendent of Documents, Government Printing Office, who has them for sale *only,* at prices noted.

Bureau of Animal Industry. No. 124. August, 1917. Pp. 89–97. Oct. 11, 1917. Price, 5 cents.

Bureau of Animal Industry. No. 125. September, 1917. Pp. 99–106. Oct. 29, 1917. Price, 5 cents.

Bureau of Chemistry. Supplement No. 28. [N. J. 4851–4900.] Pp. 479–544. Sept. 25, 1917. Price, 10 cents.

Bureau of Chemistry. Supplement No. 29. [N. J. 4901–4950.] Pp. 545–600. Oct. 17, 1917. Price, 5 cents.

Federal Horticultural Board. No. 43. August, 1917. Pp. 103–109. Oct. 2, 1917. Price, 5 cents.

Insecticide and Fungicide Board. No. 17. Pp. 295–320. Oct. 6, 1917. Price, 5 cents.

Bureau of Markets. No. 25. Pp. 23. Oct. 16, 1917. Price, 25 cents.

Bureau of Markets. No. 26. Pp. 36. Oct. 10, 1917. Price, 5 cents.

Bureau of Markets. No. 27. Pp. 40. Oct. 6, 1917. Price, 5 cents.

Bureau of Markets. No. 28. Pp. 6. Oct. 31, 1917. Price, 5 cents.

SOIL SURVEYS.

☞All requests for soil surveys are referred to the Bureau of Soils for attention, the distribution of same being controlled by that bureau.

Soil Survey of Washington County, Alabama. By Lewis A. Hurst, E. H. Stevens, and Howard C. Smith, of the U. S. Department of Agriculture, and J. L. Andress and J. F. Stroud, of the Alabama Department of Agriculture and Industries. Pp. 51, pls. 4, fig. 1, map. (From F. O. Soils, 1915.) Price, 15 cents.

Soil Survey of the Honey Lake Area, California. By J. E. Guernsey, James Koeber, and C. J. Zinn of the University of California, and E. C. Eckmann, of the U. S. Department of Agriculture. Pp. 64, pls. 4, figs. 1, map. (From F. O. Soils, 1915.) Price, 15 cents.

Soil Survey of the Pasadena Area, California. By E. C. Eckmann, of the U. S. Department of Agriculture, and C. J. Zinn, of the University of California. Pp. 56, pls. 3, fig. 1, map. (From F. O. Soils, 1915.) Price, 15 cents.

Soil Survey of Crisp County, Georgia. By E. T. Maxon, of the U. S. Department of Agriculture, and David D. Long, of the Georgia State College of Agriculture. Pp. 24, fig. 1, map. (From F. O. Soils, 1916.) Price, 15 cents.

Soil Survey of Benton County, Indiana. By Grove B. Jones, of the U. S. Department of Agriculture, and J. Bayard Brill, of the Indiana Department of Geology. Pp. 20, fig. 1, map. (From F. O. Soils, 1916.) Price, 15 cents.

Soil Survey of Scott County, Iowa. By E. H. Stevens and E. H. Smies, of the U. S. Department of Agriculture, and Knute Espe, of the Iowa Agricultural Experiment Station. Pp. 43, fig. 1, map. (From F. O. Soils, 1915.) Price, 15 cents.

Soil Survey of Dawes County, Nebraska. By R. R. Burn, L. Vincent Davis, and J. M. Snyder, of the U. S. Department of Agriculture, and F. A. Hayes and Thomas E. Kokjer, of the Nebraska Soil Survey. Pp. 41, fig. 1, map. (From F. O. Soils, 1915.) Price, 15 cents.

Soil Survey of Cortland County, New York. By E. T. Maxon, of the U. S. Department of Agriculture, and G. L. Fuller, of the New York State College of Agriculture. Pp. 28, fig. 1, map. (From F. O. Soils, 1916.) Price, 15 cents.

Soil Survey of Columbus County, North Carolina. By R. B. Hardison and R. T. Avon Burke, of the U. S. Department of Agriculture, and L. L. Brinkley and R. C. Jurney, of the North Carolina Department of Agriculture. Pp. 42, fig. 1, map. (From F. O. Soils, 1915.) Price, 15 cents.

Soil Survey of Hertford County, North Carolina. By E. S. Vanatta, of the U. S. Department of Agriculture, and F. N. McDowell, of the North Carolina Department of Agriculture. Pp. 35, fig. 1, map. (From F. O. Soils, 1916.) Price, 15 cents.

Soil Survey of Harnett County, North Carolina. By Robert C. Jurney, of the U. S. Department of Agriculture, and S. O. Perkins, of the North Carolina Department of Agriculture. Pp. 37, fig. 1, map. (From F. O. Soils, 1916.) Price, 15 cents.

Soil Survey of Portage County, Wisconsin. By W. J. Geib and L. R. Schoenmann, of the U. S. Department of Agriculture, and Lewis P. Hanson, of the Wisconsin Geological and Natural History Survey. Pp. 52, fig. 1, map. (From F. O. Soils, 1915.) Price, 15 cents.

Soil Survey of Wood County, Wisconsin. By W. J. Geib, of the U. S. Department of Agriculture, and Guy Conrey, W. C. Boardman, and Clinton B. Post, of the Wisconsin Geological and Natural History Survey. Pp. 51, fig. 1, map. (From F. O. Soils, 1915.) Price, 15 cents.

PUBLICATIONS OF THE WEATHER BUREAU.

☞Publications of the Weather Bureau are obtainable only from the Chief of the Weather Bureau or the Superintendent of Documents, Government Printing Office, at the prices noted herein.

Monthly Weather Review. (For sale only.) Vol. 45, No. 7. July, 1917. [Sept. 29, 1917.] Pp. 335–395, charts 9, figs. 16. Price, 25 cents a copy, $2.50 per year. Payable to the Superintendent of Documents.

Special Articles: Mean annual rainfall of the United States, with notes on the new chart of average annual precipitation. By R. DeC. Ward.—Sea breeze on eastern Long Island. By E. S. Clowes.—Influence of the sea on the climate of Long Island. By E. S. Clowes.—Killing frost and length of growing season in Kentucky. By F. J. Walz.—Relation between temperature and crops. By Dewey A. Seeley.—Damage by hail in Kansas. By S. D. Flora and C. L. Bush.—Scarf clouds. By C. F. Brooks.—Some field experiments on evaporation from snow surfaces. By F. S. Baker.—Dark day in Jamaica.—Distance at which thunder can be heard. By Clarence E. Miller.

National Weather and Crop Bulletin, Nos. 29, 30, 31, October, 1917; reporting temperature, rainfall, and crop conditions throughout the United States. Issued weekly, on Wednesday, April to October; monthly remainder of year. Price, 25 cents a year.

JOS. A. ARNOLD,
Chief, Division of Publications.

UNIVERSITY OF FLORIDA
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HOW STATES, COMMUNITIES, AND INDIVIDUALS CAN HELP ELIMINATE RATS AND MICE—MEASURES SUGGESTED BY BIOLOGISTS OF U. S. DEPARTMENT OF AGRICULTURE.

BY REQUIRING that all new buildings, wharves, and other structures be rat proof; that existing buildings of rat-proof construction be further protected by having basement windows and drains covered with screens, gratings, etc.; and that existing buildings that are not rat proof be made so by remodeling.

By constructing sewers and drains so that they will not provide entrance and retreat for rats.

By insisting on greater cleanliness about markets, stores, and generally throughout cities, villages, and the country districts.

By threshing and marketing grain early so that stacks will not furnish harboring places and food for rats.

By removing piles of straw, trash, and lumber which harbor rats in fields and vacant lots.

By protecting the hawks, owls, and other natural enemies of rats which are not so destructive to poultry as rats themselves.

By keeping well-trained rat dogs on farms and about city warehouses.

By keeping provisions which rats and mice will attack in rat-proof and mouse-proof containers.

By destroying rats and mice systematically by poisoning, trapping, and by organized systematic hunts.

By arousing public opinion to the realization of the importance of exterminating rats and mice.

WASHINGTON : GOVERNMENT PRINTING OFFICE : 1917